

What Is Claimed Is:

1. A pump device, comprising:

at least one of: i) a piston and ii) sealing elements
5 to seal the pump piston, the at least one of the pump piston
and sealing elements having a coating containing at least
predominantly of at least one of i) halogen-, ii) silicon-,
iii) carbon-containing, and iv) metal-organic monomers.

10 2. The device as recited in claim 1, wherein the coating
is made up at least predominantly of diamond-like carbon.

3. A sealing ring, comprising:

an elastomeric material having a coating, wherein the
15 coating is at least predominantly formed of at least one of
i) halogen-, ii) silicon-, iii) carbon-containing, and iv)
metal-organic monomers.

20 4. The sealing ring as recited in claim 3, wherein the
coating is made up at least predominantly of diamond-like
carbon.

5. A device for coating an object of elastomeric material
utilizing a plasma, comprising:

25 an evacuable process chamber;
an electrode in the chamber at which an object to be
coated may be positioned; and

at least one counter electrode in the chamber, the
plasma being formed between the electrode and the at least
30 one counter electrode, wherein the electrode, in relation to
the object to be coated, has a surface geometry such that a
plasma distribution is produced immediately at the object to
be coated, so that a significant coating also occurs in
surface regions of the object not facing the counter
35 electrode.

6. The device as recited in claim 5, wherein the electrode has at least one recess adapted to the object to be coated.

7. The device as recited in claim 5, wherein the electrode has at least one continuous opening adapted to the object to be coated.

8. The device as recited in claim 5, wherein the electrode has at least one continuous opening, and the process chamber is configured such that the plasma is formed on both sides of the electrode in a region of the at least one continuous opening.

9. The device as recited in claim 7, wherein at least one of a thickness of the electrode and the at least one continuous opening of the electrode is configured such that the plasma extends across not only unessential regions of a depth of the at least one continuous opening.

10. The device as recited in claim 7, wherein at least one of a thickness of the electrode and a dimension of the at least one continuous opening of the electrode is configured such that the plasma extends across an entire depth of the at least one continuous opening.

11. The device as recited in claim 5, wherein the electrode includes at least one of a plurality of recesses and continuous openings arranged in a regular manner and adapted to the objects to be coated.

12. The device as recited in claim 5, wherein the device is configured as a one- or multi-chamber system.

13. The device as recited in claim 5, wherein the object to be coated is a sealing ring.

14. A method for coating an object of an elastomeric material utilizing a plasma, comprising:

positioning the object in an evacuable process chamber for coating at the electrode; and

providing an electrode with at least one of: i) at least one recess, and ii) at least one continuous opening, wherein the object to be coated is arranged such that the object at least partially projects into the continuous opening.

15. The method as recited in claim 14, further comprising: applying a priming voltage to the electrode.

16. The method as recited in claim 15, wherein the priming voltage is one of an a.c. voltage having a frequency of between 4 and 40 MHz, or a pulsed d.c. voltage.

17. The method as recited in claim 14, further comprising: prior to the coating, subjecting the object to be coated to at least one of a surface cleaning and surface activation.

18. The method as recited in claim 17, wherein the at least one of the surface cleaning and surface activation is carried out using a noble gas.

19. The method as recited in claim 18, wherein the noble gas includes at least one of argon, air, and mixtures of at least one of argon and air with oxygen.

20. The method as recited in claim 14, further comprising: utilizing at least one of acetylene, methane and mixtures of acetylene or methane with noble gases as a process gas for the coating.